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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,417

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Hiromitsu Takeda

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EXAMINER

JOY, DAVID J

ART UNIT

PAPER NUMBER

1794

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DELIVERY MODE

06/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,417	Applicant(s) TAKEDA ET AL.	
	Examiner David J. Joy	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 are pending as amended on April 29, 2008.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 29, 2008 has been entered.

Response to Amendments

4. The amendments to the claims, filed on April 29, 2008, have been fully considered, are properly supported by the specification of the instant application, and will be discussed *infra*.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by the U.S. Patent of Strickler et al. (6,858,306; hereinafter “Strickler”), as evidenced by the U.S. Patent of Oliver et al. (4,797,317; hereinafter “Oliver”).

7. Strickler teaches a laminate (“article”) having a visible light absorbing film coating (“solar control coating”) one or both sides of a substrate, and the article (including the substrate) are taught as having solar radiation reflecting properties and a visible light reflectance of 10% or more (see Abstract; see also Figure 2; see also Column 2, Lines 14-24). Strickler specifically teaches that the coated glass article has a visible light transmittance of 63% or more, and as recited in Oliver a light transmission on the

order of 20-30%, for example, implies reflectivity of 70-80% (see Column 2, Lines 67-68).

Therefore, it follows that the coated article of Strickler can be deemed as having a visible light reflectance of 10% or more. While the visible light reflectance in Strickler is particularly directed to the coated article, Strickler also teaches that the substrate of the article can be a glass substrate (see Abstract; see also Column 4, Lines 49-59). Given that the specification of the instant application provides that the substrate can be formed on any desired material having the requisite properties, and that such a desired material “may be exemplified by films, *glass sheets*, transparent resin sheets, and so forth” it can be concluded that the substrate taught by Strickler anticipates the substrate as claimed (emphasis added; see specification at Page 6). Therefore, since the coated article has a visible light reflectance of 10% or more, and the article has the aforementioned substrate, then the substrate will have a visible light reflectance of 10% or more.

8. Strickler also recites that the coated article exhibits a reduction in the solar radiation reflectance (see Column 6, Lines 28-56). While the reference does not positively state the calculations and computations of the degree of reduction of visible light reflectance or the degree of reduction of solar radiation reflectance, it is clear that such reflecting properties were clearly contemplated in the design of the invention taught therein. Additionally, Strickler, taken in view of the evidence provided by

Oliver, teaches all of the claimed constituents that are broadly claimed in Claim 1.

Therefore, the claimed effects and physical properties (i.e., the degree of reduction of visible light reflectance or the degree of reduction of solar radiation reflectance) would be inherent to a composition with all of the claimed constituents. The claiming of a new use, new function or unknown property, which is inherently present in the prior art, does not necessarily make the claim patentable. *In re Best*, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Mere recitation of a newly-discovered function or property, inherently possessed by things in prior art, does not cause claim language drawn to those things to be distinguishable over prior art. As Strickler teaches the transmittance, it is reasonable to conclude that a skilled artisan could calculate the amount of light that is reflected.

9. Strickler teaches that the coated article exhibits a haze value that has been made higher than the haze value before formation of the visible light absorbing film and its gain is +3% or less; specifically, the coated article exhibits a haze of less than 0.8% (see Column 5, Lines 20-30). Strickler also teaches that the coated article has a c^* value of 40 or less. In particular, Strickler recites that the article has an a^* value of about 5 to about -5 and a b^* value of about 5 to about -5, as defined on the CIELAB color scale system (see Column 5, Lines 20-30). Consequently, using the chromaticness formula claimed in

the instant application, it follows that these a^* and b^* values result in the claimed c^* value. Further, Strickler provides that the substrate is a glass sheet on which a metallic thin film has been formed (see Figure 2), and that the coating is incorporated directly or via an intervenient member or via a space (*Id.*).

Claim Rejections - 35 USC § 103

10. Claims 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strickler in view of Oliver.

11. Strickler teaches a coated laminate ("coated article"), as discussed hereinabove. Strickler, though, is silent as to some of the specifics of the coated article. Most notably, Strickler fails to teach the nature of the metallic thin film as well as the specific contents of the tinted film. However, Oliver, drawn a solar control window film, teaches a composite film sheet laminated to a glass substrate (see Abstract), with the film sheet being a polymeric film onto which a metallic thin film of aluminum has been vacuum-deposited on the substrate (see Column 3, Line 65 – Column 4, Line 2; see also Column 6, Lines 52-54), and additionally, the film sheet can contain a carbon black pigment and a polyester binder (see Column 4, Lines 3-14). Similarly, Oliver recites that the window film is such that it exhibits a visible light reflectance of 10% or more (see Abstract; see

also Column 3, Lines 29-42). As both Strickler and Oliver are drawn to the same field of invention, it would have been obvious to a person having ordinary skill in the art at the time of invention, to have made a visible light absorbing film composite with the claimed limitations as taught in the instant application.

12. Claims 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strickler, either as evidenced by or taken in view of Oliver, as applied to the rejections of Claims 1-5 above, and further in view of the Japanese Patent Publication of Toshiharu et al. (JP 10-182190; hereinafter "Toshiharu"). All citations to Toshiharu are based upon the machine translation of the reference, the relevant portions of which accompany this Office Action.

13. Strickler, in view of Oliver, teaches a glass sheet on which a metallic thin film has been formed (with all of the claimed limitation as discussed hereinabove), and that the metallic thin film can be an aluminum compound. However, Toshiharu, drawn to a transparent black electroconductive film, recites that the metallic thin film layer can contain aluminum, copper, or silver (see ¶ [0021]). Additionally, Toshiharu teaches that the film can also contain a pigment particles, such as titanium black and carbon black (see ¶ [0026]). As the references of Strickler, Oliver and Toshiharu are all drawn to the

same field of invention, it would have been obvious to a person having ordinary skill in the art at the time of invention, to have used any of the metallic thin film layer taught by Toshiharu, in order to achieve an article having desirable reflective properties.

14. Neither Strickler, Oliver nor Toshiharu shows that the pigment particles have an average dispersed-particle diameter of 300 nm or less in the ink, as in Claim 7.

However, such particle sizes are properties that can be easily determined by a person having ordinary skill in the art. With regard to the limitation of the particle size, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions fails to render claims patentable in the absence of unexpected results. The aforementioned limitations are optimizable as they directly affect the pigment layer of the visible light absorbing ink. It would have been obvious to a person having ordinary skill in the art, at the time of invention, to make the ink layer with the limitations of the pigment particle size since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215 (CCPA 1980).

15. Claim 7 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Strickler, either as evidenced by or taken in view of Oliver, as applied to the rejections of Claims 1-5 above, and further in view of the Japanese Patent Publication of Masaaki et al. (JP 2000-238170; hereinafter "Masaaki"). All citations to Masaaki are based upon the machine translation of the reference, the relevant portions of which accompany this Office Action.

16. Strickler, in view of Oliver, teaches a glass sheet on which a metallic thin film has been formed (with all of the claimed limitation as discussed hereinabove), and that the film layer can contain carbon black particles. Additionally, Masaaki, drawn to a transparent conductive film, provides that the film layer can additionally contain a dark-colored azo pigment (see ¶ [0016]). Since Strickler, Oliver and Masaaki are all drawn to the same field of invention, it would have been obvious to a person having ordinary skill in the art at the time of invention to have used the pigment taught by Masaaki, in order to achieve an article having excellent reflective characteristics.

17. Neither Strickler, Oliver nor Masaaki teaches that the pigment particles have an average dispersed-particle diameter of 300 nm or less in the ink, as in Claim 7.

However, such particle sizes are properties that can be easily determined by a person

having ordinary skill in the art. With regard to the limitation of the particle size, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions fails to render claims patentable in the absence of unexpected results. The aforementioned limitations are optimizable as they directly affect the pigment layer of the visible light absorbing ink. It would have been obvious to a person having ordinary skill in the art, at the time of invention, to make the ink layer with the limitations of the pigment particle size since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 USPQ 215 (CCPA 1980).

Response to Arguments

18. Applicant's arguments filed April 29, 2008 have been fully considered but they are not persuasive.

19. Applicant argues that given the teaching in Strickler that the coated glass article has a visible light transmittance of 63% or more, there is no basis for concluding that the glass article before coating exhibits a visible light reflectance of 10% or more. However, the correlation between the visible light transmittance of an article and the visible light

reflectance is clearly addressed in the teachings of Oliver (as discussed hereinabove).

Taking that teaching into account, the visible light reflectance of the coated article can be discerned. Adding that fact to the fact that Strickler provides that the substrate of the coated article anticipates the type of substrate used in the instant application, the visible light reflectance of the substrate is thereby achieved.

20. Applicant also argues that there is nothing in Strickler to teach the visible light reflectance and/or solar radiation reflectance of the substrate before coating. However, it is noted that those types of reflecting properties are both contemplated by the reference. While there is no positive recitation of those particular calculations, they are properties that are implicitly achieved by a composition that matches that which is instantly claimed. Furthermore, they are also properties that are obvious and could reasonably be calculated by a skilled artisan, given the teachings provided in the reference.

21. As for the Oliver reference, Applicant argues that Oliver does not employ a method by which a visible light absorbing ink is coated on the surface of a substrate. However, the language of independent Claim 1 merely recites that the laminate *has* a visible light absorbing film formed by an ink having been coated on a substrate. There

is nothing positively recited in the claim to require that the film is coated *directly* onto the substrate. In fact, the claims further include the limitation that the film can be incorporated onto the substrate via an intervening member or via a space. Therefore, in addition to the fact the language of the independent claim is open to the possibility of there being other layers and does not exclude the inclusion of those layers, the claims, in fact, positively recite that such layers and/or spaces are meant to be included.

Therefore, the laminate structure as taught by Oliver is such that it reads upon both the broad, independent claim, as well as the further limitations provided by the dependent claim.

22. In addition, Applicant argues that Oliver does not teach the use of a method by which the visible light absorbing film is formed by coating a visible light absorbing ink on at least one side of a substrate. However, it is noted that the present claims are drawn to an article (namely, a laminate), and not the process by which that article is made/formed. Unless Applicant can provide substantive proof that the claimed article is somehow distinct from that which is taught by the reference, process limitations are not given patentable weight in claims drawn to an article.

23. Applicant further argues that Oliver does not in any way teach, or even suggest, the degrees of reduction of visible light reflectance and of solar radiation reflectance.

As discussed above, Examiner is taking the position that even though these degrees are not positively recited by the references, these ratios would be such that they are intrinsic to the article taught by the reference, and that taken together with the teachings of the Strickler reference, they are implicitly achieved. In addition, it also noted that there is no showing of experimental data in the specification to support Applicant's assertion that the additional layers (whose inclusion, incidentally, is claimed in the instant application, as discussed above) would prevent the article taught by Oliver from achieving the relative degrees of reduction.

24. Finally, Applicant argues that neither Toshiharu nor Masaaki can be combined with the Strickler and Oliver references and overcome the deficiencies in the prima facie case of obviousness based on those references. However, as discussed hereinabove, the Strickler and Oliver references provide valid teachings that taken together establish a prima facie case of obviousness which renders the present claims unpatentable.

Therefore, the additional teachings provided by Toshiharu and Masaaki are proper as far as the unpatentability of the dependent limitations upon which those teachings read.

Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Joy whose telephone number is (571)272-9056.

The examiner can normally be reached on Monday - Friday, 7:00 AM - 3:30 PM EST.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie E. Shosho can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/DJJ/
Examiner, Art Unit 1794
06/17/2008

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794